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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/007,288	12/03/2001	R. Andrew Wood	1100.1138101	4991

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EXAMINER
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MERCADO, JULIAN A

ART UNIT	PAPER NUMBER
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1745

DATE MAILED: 05/08/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Applicati n N .

10/007,288

Applicant(s)

WOOD ET AL.

Examiner

Julian A. Mercado

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- The MAILING DATE of this communication appears on the cover sheet with the correspondence address -  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09 December 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-55 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-43 is/are allowed.
- 6) ☒ Claim(s) 44-55 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 7.
- 4) ☒ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Terminal Disclaimer***

The terminal disclaimer filed on December 9, 2002 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of U.S. Pat. 6,359,333 has been reviewed and is accepted. The terminal disclaimer has been recorded.

### ***Remarks***

This Office Action is in reply to applicant's response filed December 9, 2002.

The rejection of claims 48 and 54 under 35 U.S.C. 102(e) based on Seefeldt et al. has been withdrawn. The rejection based on Seefeldt et al. has been withdrawn in view of applicant's persuasive argument that an epitaxial layer, i.e. SiO<sub>2</sub> is not readable on the instant "wafer".

The rejection of claims 50-55 under the judicially created doctrine of obviousness-type double patenting over claims 1-17 of U.S. Patent No. 6,359,333 B1 has been withdrawn in view of applicant's filing of a terminal disclaimer.

This Office Action presents a new ground of rejection and is therefore made NON-FINAL.

### ***Drawings***

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the instant "bond pads" and the extent

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to which the bond pads are "in registration" with the bond-pad holes must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 49 and 55 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for the instant "bond pads" on the wafer, does not reasonably provide enablement for the bond pads to be in registration with the bond-pad holes or for the bond pads to be disposed on the first wafer's first side. It appears to the examiner that applicant's specification merely recites "holes 35 through wafer 14 to access the wire bond pads on detector wafer 13" in column 13 at lines 20-22. To this extent, it also cannot be assumed or interpreted, absent of further clarification from applicant's original disclosure, that the wire bond pads are on the first side of the first wafer, i.e. on the inner side of the first wafer which defines the formed chamber. Thus, the specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims.

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***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

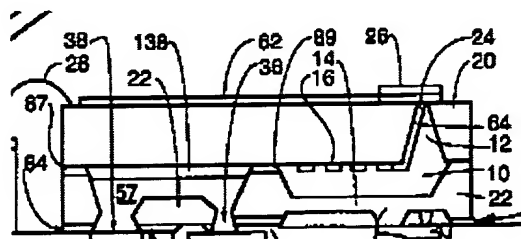
A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 44-55 are rejected under 35 U.S.C. 102(e) as being anticipated by Harris et al.

(U.S. Pat. 5,865,417).

Harris teaches a first silicon wafer [20] and a second silicon wafer [22] defining a chamber or sealed cavity [10], the first and second wafer having a sealing ring [87, 89] therebetween, the first wafer having a pump-out port [12] therethrough which is subsequently plugged by seal [26] (col. 6 line 4-6 and 11-19, col. 10 line 17-21, col. 11 line 18 et seq.) As a matter of clarification, an enhanced portion of Figure 1 is as follows:



A device [16] such as a resistor is provided on the surface of the first wafer. (col. 9 line 61, col. 10 line 22 et seq.) The examiner notes that the limitation “in registration” has not been defined in applicant’s specification and thus this limitation has been given its broadest reasonable interpretation based on the term’s dictionary definition and to the extent that the limitation is fully supported by applicant’s original disclosure. In this regard, Merriam Webster’s Collegiate

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defines "register" as *a condition of correct alignment or proper relative position*. Thus, as the devices [16] are specifically positioned within the chamber [10] such as being positioned in a "resistive metallization resistor pattern" (col. 10 line 23), the devices are considered to be in registration with the chamber.

To the extent that applicant's scope of invention is understood by the examiner for the reasons discussed under 35 U.S.C. 112, first paragraph (discussion above), as to bond pads being in registration with the bond-pad holes, in Harris the holes [12] also function as a bond-pad hole in registration with bond pads on the first wafer. Column 10 lines 15-21:

15 The conductors of the resistive element may be brought  
out to bonding pads on the outside edges of the top die.  
Typically this is done by forming a metallization layer 62  
shaped as two electrically isolated conductors across the top  
of first die 20 which make contact with a metallization layer  
20 64 formed on the inside of each of two fill holes (only one  
fill hole is shown for simplicity) under the sealing cap 26.

As described, a metallization layer inside the fill holes under the sealing cap [26] is in contact with the bond pads disposed on the wafer, i.e. "on the outside edges of the top die". Thus, the holes are considered to be in a proper relative position or registration with these bond pads so as to allow for conductive contact with these elements.

### ***Response to Arguments***

Applicant's arguments against Seefeldt et al. have been considered but are moot in view of the new ground(s) of rejection.

### ***Allowable Subject Matter***

Claims 1-43 are allowed for the reasons set forth in the previous Office Action.

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***Conclusion***

U.S. Pat. 5,420,419 and U.S. Pat. 5,581,631 have not been considered by the examiner, as these references appear to have been incorrectly cited based on their respective patent date and inventive entity not matching with that cited in applicant's IDS, as well as these patents being drawn to a "camera" and a "cytological system", respectively. U.S. Pat. 5,736,430 has been lined through as this reference has already been cited by the examiner in a prior Form PTO-892.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julian A. Mercado whose telephone number is (703) 305-0511. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick J. Ryan, can be reached on (703) 308-2383. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.



March 22, 2003



Patrick Ryan  
Supervisory Patent Examiner  
Technology Center 1700